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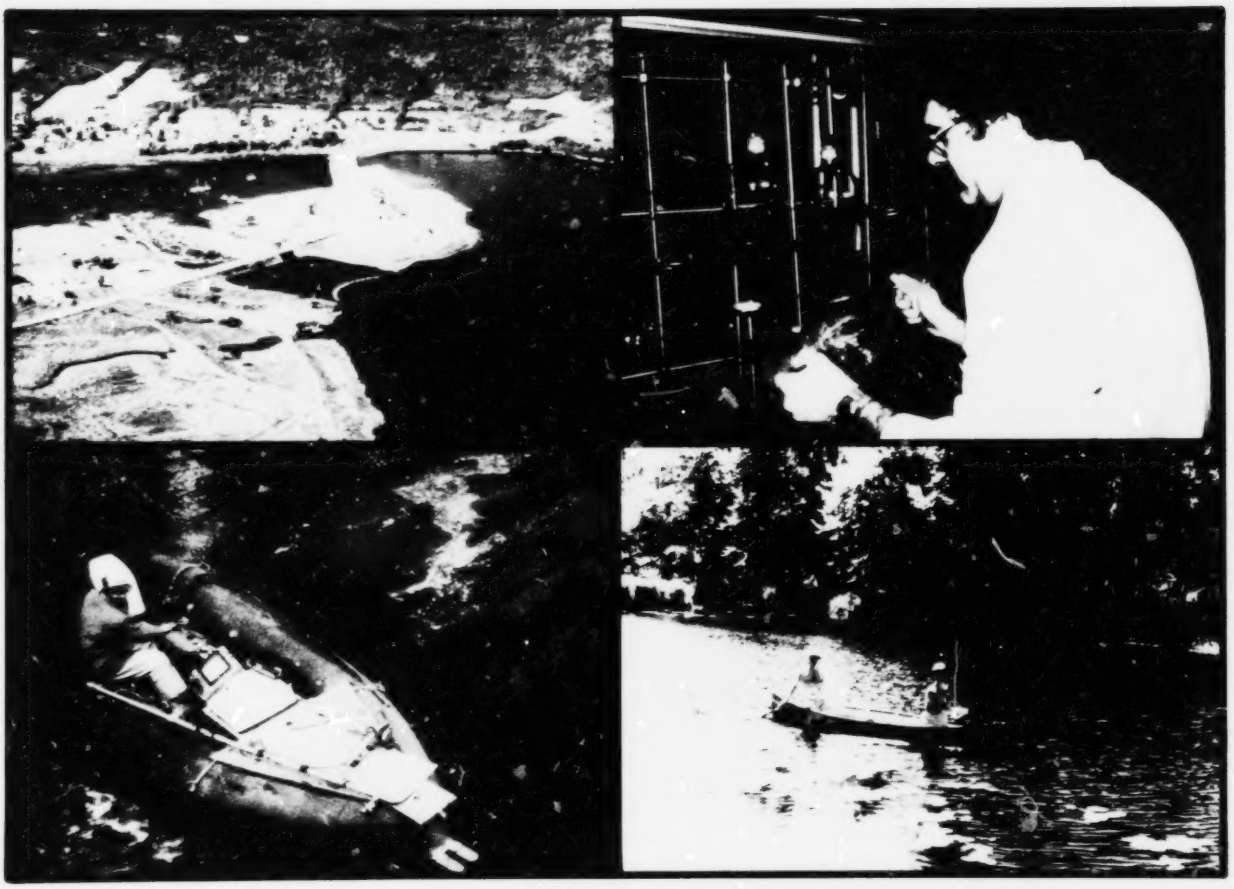

Canada

INLAND WATERS DIRECTORATE
ATLANTIC REGION
WATER RESOURCES BRANCH
DARTMOUTH, NOVA SCOTIA

SUMMARY AND ANALYSIS OF DATA AND INFORMATION REQUESTS RECEIVED DURING 1985-1986 AND 1986-1987

WATER RESOURCES BRANCH

ATLANTIC REGION

IW/L-AR-WRB-87-123

JULY 1987

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ABSTRACT

The provision of accurate and timely data and related information by the Water Resources Branch, Atlantic Region, continues to be a priority activity. This report, summarizing and analysing the data and information requests received in fiscal years 1985-86 and 1986-87 shows the demand for various data types and the demand from numerous clients. A similar report was completed for fiscal years 1982-83 1983-84 and 1984-85. This analysis shows, as previous ones have, that most requests, 23%,in the last two years are for daily mean discharge data and that most requests, 36%,in the last two years originated from engineering consulting companies. The information contained in annual reports of this type over the last five years has given a basis for management decisions on such policy areas as data types to be published, publication formats, and has defined some trends for specific data types. The data and information produced by the Water Resources Branch are used in real time and long-term applications, however, all products should be delivered in formats readily useable in the clients' application.

RESUME

La priorité de la Direction des ressources en eau de la Région de l'Atlantique demeure celle de fournir des données exactes et à jour avec renseignements pertinents. Le présent rapport qui résume et analyse les demandes de données et d'information reçues pendant les années financières 1985-1986 et 1986-1987 fait état de la demande relative à divers types de données et à celle émanant de nombreux clients. Un rapport semblable a été préparé pour les années financières 1982-1983, 1983-1984 et 1984-1985. Cette analyse révèle, tout comme les précédentes d'ailleurs, que la plupart des demandes (27%) reçues au cours des deux dernières années portent sur les données de l'écoulement moyen quotidien et que la plupart des demandes (38%) reçues au cours des deux dernières années proviennent de bureaux d'ingénieurs-conseils. Les renseignements contenus dans des rapports annuels de ce type au cours des cinq dernières années ont permis à la gestion de fonder ses décisions en matière de lignes de conduite, comme les types de données à publier et la présentation des publications, et a défini certaines tendances concernant des types des publications, et a défini certaines tendances concernant des types de données en particulier. Les données et l'information produites par la Direction des ressources en eau sont utilisées en temps réel et dans des applications à long terme; elles doivent toutefois être présentées sous une forme convenant au client.

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INTRODUCTION

This is the fourth report presenting details and discussion on the data and information requests received by the Water Resources Branch, Inland Waters/Lands, Conservation and Protection, Atlantic Region. Comparisons have been made to the information contained in the 1982-83, 1983-84 and 1984-85 reports. There is rarely a day when no request is received by one of the five Atlantic Region offices. The documentation of what is being requested and who is doing the requesting is considered worth continuing. From time to time, program reviews ask valid but awkward questions, such as "who is using the Branch products and for what reasons?" A summary of this type gives the reviewers a very complete picture of the demand for water quantity data in the Atlantic Region. Also, from time to time decisions are made on adding or deleting activities or outputs. This summary will give Branch and Directorate managers one more basis for making program resource shifts. This report, on hand, allows for quick response to enquires such as the above.

Regional procedures for logging all data requests were maintained throughout 1985-86 and 1986-87. These included monthly statements of requests filled by each of the four regional offices; Fredericton, N.B.; Charlottetown, P.E.I.; Corner Brook and St. John's, Newfoundland. Requests filled by the Regional Head Office in Dartmouth, Nova Scotia, were also tallied on a monthly basis. In addition to regional responses, this report contains some details on data requests handled by the Data Control Section, Water Resources Branch, NCR. The requests are limited to Atlantic Region data requested directly from Headquarters or via the Atlantic Region office in Dartmouth, Nova Scotia.

A regional log of requests was maintained by J.W. Clarke, Head, Data Control Section, Atlantic Region. Summaries were included as part of the Hydrology Division monthly report. In 1985-86 and 1986-87 the log was kept as a paper entry and a summary of the 12 monthly reports was produced. Appendix A contains the monthly summary sheets.

In 1984-85 the procedure of documenting requests was strengthened. A log form was created by J.W. Clarke and reviewed by many staff. The form was produced in the format of a pad for each employee to have readily available. When a request was discussed or actioned, brief notes were made on the pad sheet. The sheets were to be sent to J.W. Clarke along with the employee monthly reports. It has become a quick means of recording details on each and every request to provide a more complete picture of the demands from data and information users.

An example of the log form follows this page as Table 1. The initial production of 50 pads each containing 75 sheets has lasted to date.

WATER RESOURCES BRANCH REQUEST LOG

Data/Information Requested by: _____

Reason for Request: _____

Logged by: _____ Date: _____

Details (Stations, area, etc.) _____

_____

Request Satisfied? ___ Yes ___ No If 'No', Why? _____

_____

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily											
Hourly											
Plots of Q											
Historical Summary											
SWD Publication											
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily											
Hourly											
Plots of W.L.											
HWL Summary											
Sediment Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can. Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables											
Microfiche											
Water Temp.											
Maps											
Reports/Tech. Papers											
Computer Programs											
Other (specify)											

TABLE I

ADDITIONAL REMARKS: _____

_____

_____

OBSERVATIONS ON REQUESTS

FILLED BY WRB (ATLANTIC)

The requests received for data and information during 1985-86 and 1986-87 are summarized on Table II.

In 1985-86, 254 requests for data and information were received and handled. While in 1986-87, 246 requests for the same data types were received. However, overall in 1985-86 and 1986-87, 358 and 330 requests, respectively were received. This apparent difference is resulting from the definition of data types. The definitions were developed in the 82-83 report and since the introduction of the detailed log sheet it is possible to be more specific. Requests earlier put into a more general type are now noted elsewhere giving the false appearance that less of some items are being requested.

The requests for daily discharge data made up 24% of all requests in 1985-86 and 23% in 1986-87. These data continue to be the most requested of all types.

The next most frequently requested data type is the Historical Streamflow Summary Publication at 13% in 1985/86 and 8% in 1986/87. This publication contains the high and low annual, monthly, daily and instantaneous extremes.

Figures 1 and 2 illustrate the distribution of the requests by type. Not all types have been given a pie slice due to their relative small percentage.

Table III shows the five year totals for specific types of data and information. The total number of requests was increasing up to 1985/86, however, a reduction was seen last fiscal year. Data types not previously defined in 86/87 have been put into the "other information" type.

Figure III shows a five year picture of how the requests for various data/information came to WRB, Atlantic. A five year average is about 264 requests per year. A request is defined throughout this and previous reports as a single event however, any request may range from a single number up to years of data from numerous stations. There is no "average request".

DATA AND INFORMATION REQUESTS

1985-86 AND 1986-87

Type of Data Requested	1985-86	1986-87
Daily Discharge	86	75
Daily Water Level	17	13
Daily Sediment	2	1
Hourly Discharge or Water Level	19	22
Plotted Data	7	7
Reference Index	7	7
SWD Publication	14	12
HSS Publication	48	28
HWL Publication	7	3
Sediment Publication	4	1
Other Information (interpretation reports, hydraulic data, maps, general info.)	35	68
Microfiche	5	1
Snow Survey	0	4
Water Temperature	3	4
Totals	254	246

TABLE II

DATA AND INFORMATION REQUESTS

1985-1986

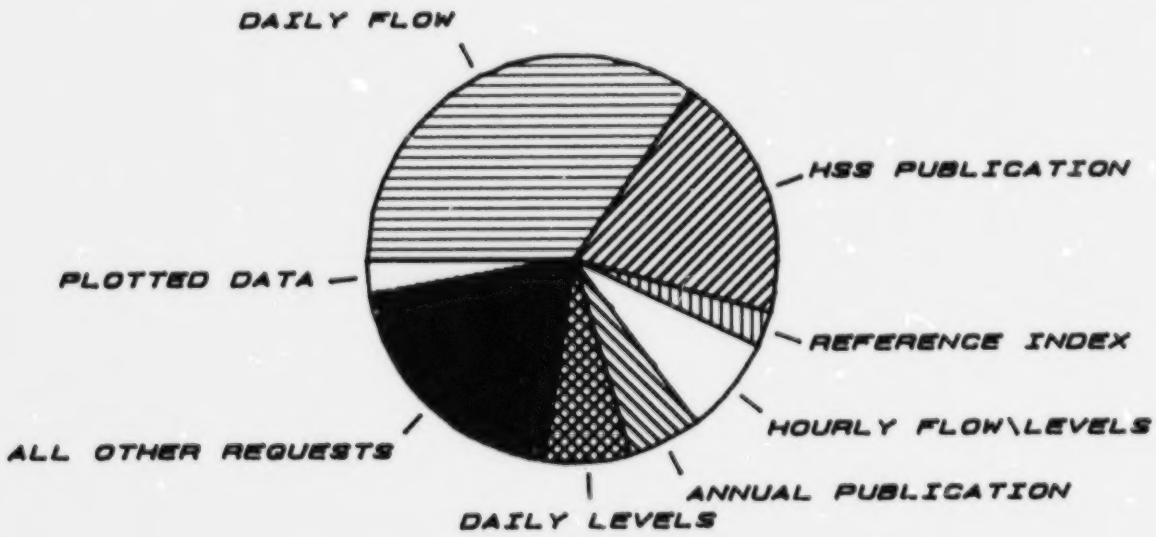

FIGURE 1

DATA AND INFORMATION REQUESTS

1986-1987

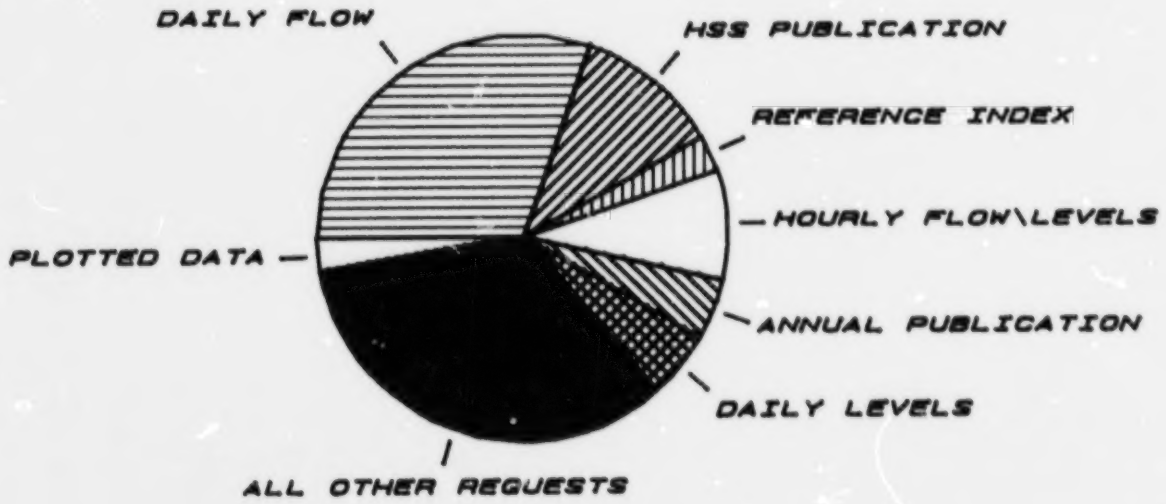

FIGURE 2

COMPARISON OF REQUESTS BY TYPE BY YEAR

TYPE	YEAR				
	1982-83	1983-84	1984-85	1985-86	1986-87
Daily Discharge	55	104	133	86	75
Other Information	27	28	45	104*	152*
Hourly discharge/ Water Level	22	27	16	19	22
Daily Water Level	8	24	35	17	13
HSS Publication	/	15	21	48	28
SWD Publication	/	14	7	14	12
Plotted Data	5	5	6	7	7
Reference Index	/	5	9	7	7
Microfiche	/	3	2	5	1
Snow Survey Data	/	2	1	0	4
Water Temperature Data	2	2	6	3	4
Sediment Publication	/	1	3	4	1
HWL Publication	/	0	1	7	3
Daily Sediment	0	0	0	2	1
TOTALS	119	230	285	358	330

NOTE: / denotes no type was defined during the year

* contains requests not previously being documented.

TABLE III

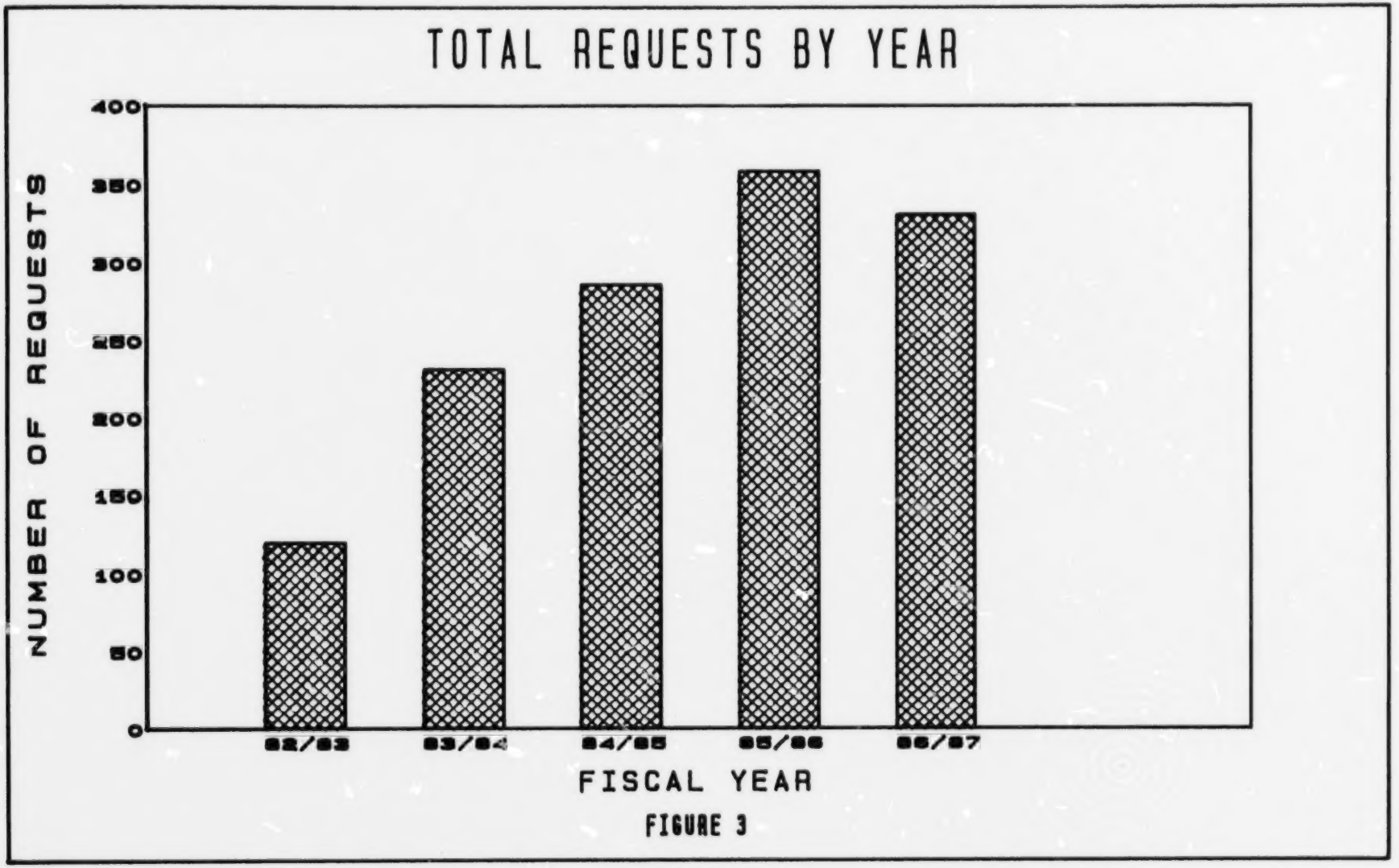
TOTAL REQUESTS BY YEAR
NUMBER OF REQUESTS
400
350
300
250
200
150
100
50
0
82/83
83/84
84/85
85/86
86/87
FISCAL YEAR

FIGURE 3

Most of the specific types of requests actioned in 1985-86 and the requests for the same items actioned in 1986-87 were logged by type of client making the request. Two general types, government and non-government were used. Each of these is sub-divided into further types; Table IV.

Over the last two fiscal years about 44% of all requests originated from the various levels of Federal, Provincial and Municipal governments while 56% originated from non-government clients.

Thirty-six percent of all requests originated from engineering consulting firms over the last two years. The next most frequent clients were other federal agencies with 17% in 85/86 and Provincial Environment departments at 15% in 86-87.

Figure IV shows the 1985-86 requests by client type while Figure V shows the 86/87 values. Table V puts the 1985-86 and 1986-87 requests by type relative to the last three fiscal years.

Over the five year span, most requests originate from engineering firms, 34%. The proportion rapidly drops back to 15% for other Federal Government Departments. Figure VI displays these summary data.

DATA AND INFORMATION REQUESTS BY CLIENT TYPE

1985-86 and 1986-87

Client	1985-86	1986-87
Federal DOE	39	30
Other Federal	57	35
Provincial DOE	30	48
Other Provincial	25	19
Municipal	2	8
Total for Government Agencies	153	140
Educational Institutes	31	35
Engineering Consultants	122	112
Public Interest Groups	12	2
Private Individuals	2	8
Companies	14	33
Total For Non-Government	181	190
Grand Total	334	330

Table IV

REQUESTS BY CLIENT TYPE

1985-1986

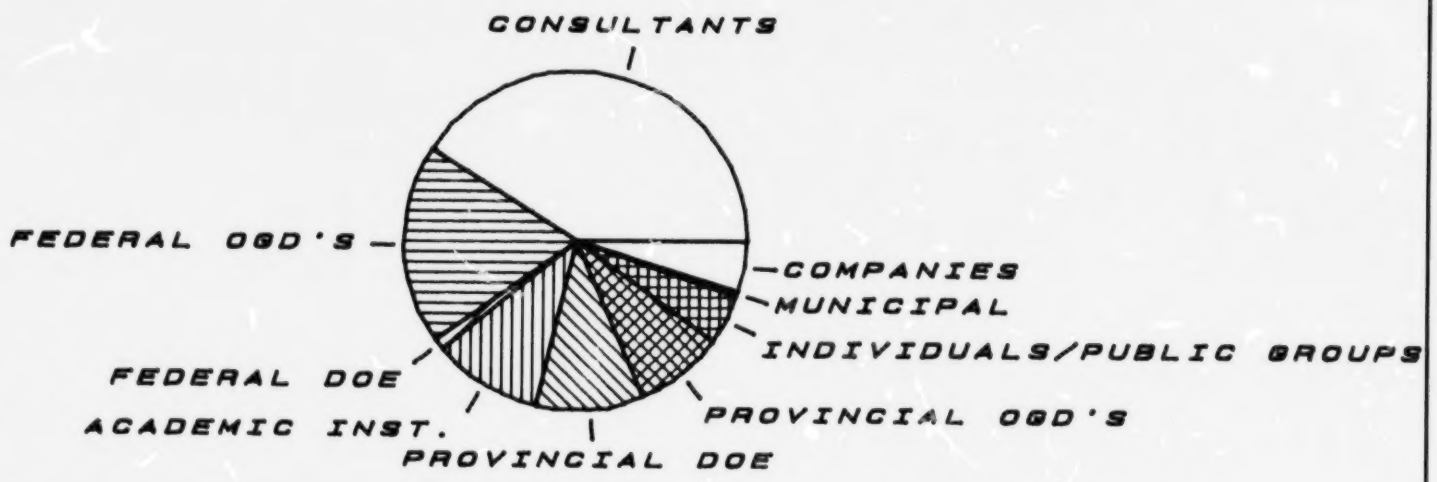

FIGURE 4

REQUESTS BY CLIENT TYPE

1986-1987

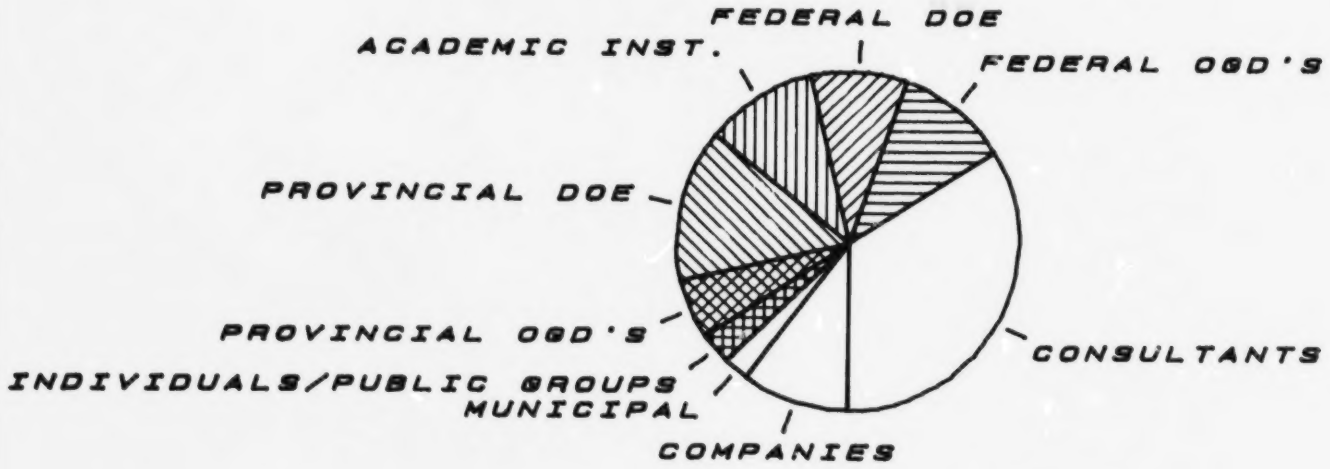

FIGURE 5

COMPARISON OF REQUESTS BY CLIENT TYPE BY YEAR

Type	Year				
	1982-83	1983-84	1984-85	1985-86	1986-87
Engineering Consultants	52	80	59	122	112
Other Agencies	/	33	36	-	-
Dept. of Env. (Federal)	20	32	29	39	30
Other Government Departments, (Provincial)	/	23	55	25	19
Other Government Department, (Federal)	11	23	49	57	35
Education Institutes	7	21	24	31	35
Dept. of Env. (Provincial)	26	14	24	30	48
Private Individuals	3	4	9	2	8
Companies/Industry	-	-	-	14	33
Public Interest Groups	-	-	-	12	2
Municipal	-	-	-	2	8
TOTALS	119	230	285	334	330

NOTE: / denotes no type was defined during the year

TABLE V

REQUESTS BY CLIENT TYPE

CUMULATIVE VALUES SINCE 1983

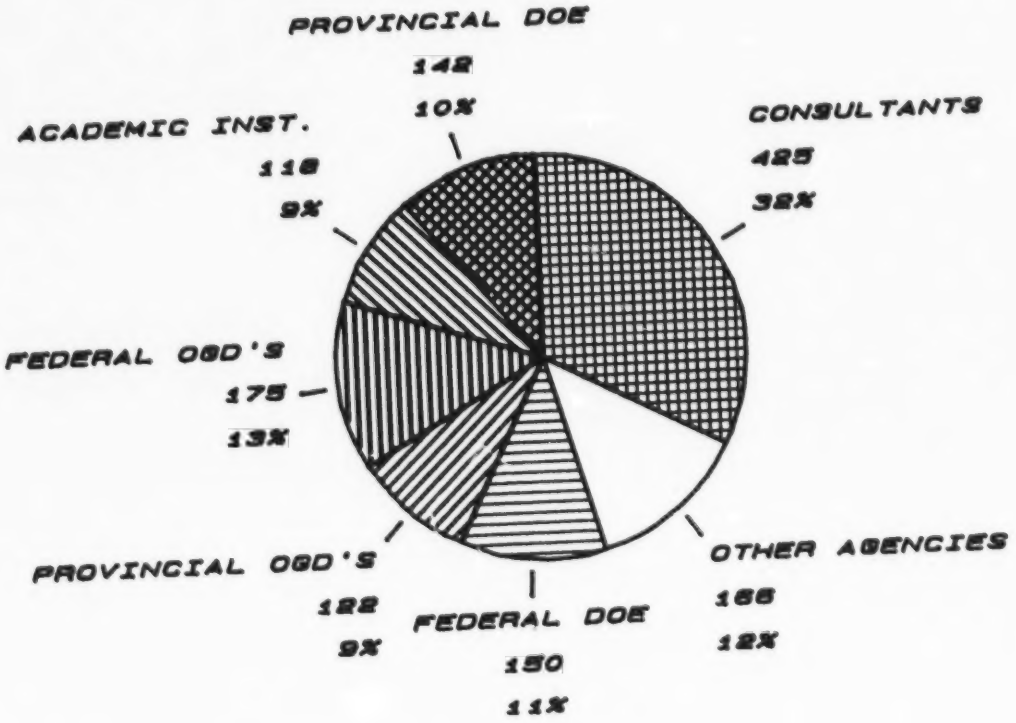

FIGURE 6

FILLED BY WRB HEADQUARTERS

Requests for Atlantic Region data are filled by WRB Headquarters. These were restricted to large retrievals from the FLOW file which was not readily accessible in this Region. Also some clients contact Headquarters directly and are given data for the Atlantic Region. A copy of the answering letter is sent to the Dartmouth office for information.

The ability to respond to requests for data on magnetic tape has now been reached locally. The combination of networked WRB and WQB computers in the region gives WRB access to the WQB tape drive. Requests previously sent to WRB HQ are now being addressed using regional files and the WQB tape drive.

In addition, many clients are on the national distribution list for WRB publications and thereby receive Atlantic Region data. The list is extensive and larger than the number of direct requests received in the Region. It is also not known how many times a data or information user refers to a publication. Each referal would constitute a request using the criteria assummed in this and previous reports.

CONCLUSIONS

1. The detailed request log form is an effective way of documenting the nature and origin of requests.

2. One quarter to one third of all requests are for daily discharge data.

3. The Historical Streamflow Publication is the most requested publication.

4. Over one third of all requests originate from various Engineering and Environmental Consulting Companies.

5. Requests from various levels of government agencies amount to about 44 % of the volume and 56% from non-government groups, companies and individuals.

6. The ability to respond to requests for data on magnetic tape has been developed within the Region.

7. Averaged over the last five fiscal years, the Atlantic Region has responded to 264 requests each year. The definition of requests has been made more specific in the last two years by the introduction of the detailed request log form.

H. RECOMMENDATIONS

The following recommendations are directed towards Regional and Headquarters WRB Program Managers. Program plans for 1988-89 and beyond should include any found to be reasonable and practical.

A. The documenting of requests via the current log sheet should continue with monthly and annual summaries.

B. Summary reports such as this should cease to be annual now that a five year picture has been given. A reporting frequency of 2 years is recommended. The next report of this type should be done in fiscal year 89/90 to include the 1987 to 1989 two year period.

C. Increased Regional and Headquarters resources should be directed to promotional formats on increasing the awareness of clients and non-clients to the Water Resources Branch and its products. The production of brochures, fact sheets and appearances at public events should be continued and further developed.

D. Files containing meter measurements, rating tables and other incidental information contained on meter notes should be developed in accordance with National formats. The use of data base management software should be considered to maximize the usefulness of the data files. Software for the creation and maintenance of these files should be done by Water Resources Branch, Headquarters, or a regional office in liaison with Headquarters.

E. The resources now allocated to preparing and responding to data/information requests be maintained. Prompt and correct action to clients will go a long way in maintaining credibility.

F. One day seminars/workshops should be co-ordinated by the Federal-Provincial Co-ordinators to further advertype than outputs from the Federal-Provincial Agreements.

G. The creation of a computer based user friendly access to WRB data and information should be considered. Software having menus and numerous sub menus leading to direct read only access to data and interpretation report abstracts would be an effective "front end" for requesters.

APPENDIX I

MONTHLY SUMMARIES

SUMMARY OF DATA AND INFORMATION REQUESTS

APRIL 1985

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High								1			1
- Low								1			1
Means - Annual				1			1				2
- Monthly							1	1			2
- Daily	2	1	1	1			3				8
Hourly											
Plots of Q				1							1
Historical Summary		1					2	1		1	5
SWD Publication											
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily				1			1				2
Hourly											
Plots of W.L.											
HWL Summary											
Sediment Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
water Content											
Annual Summary											
General								1			1
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables		1									1
Microfiche											
Water Temp											
Maps											
Reports/Tech Papers											
Computer Programs											
Other (specify)										1	1
	2	3	1	4			8	5		2	25

SUMMARY OF DATA AND INFORMATION REQUESTS

MAY 1985

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High							2				2
- Low											
Means - Annual											
- Monthly											
- Daily	1		1			1	2				5
Hourly						1					1
Plots of Q			1								1
Historical Summary						1	1	1		1	4
SWD Publication								1			1
Reference Index								1			1
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily							1				1
Hourly											
Plots of W.L											
WL Summary								1			1
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S.D. Can. Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info	1										1
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables											
Microfiche			1								1
Water Temp											
Maps											
Reports/Tech. Papers										1	1
Computer Programs											
Other (specify)		1				1	1	1			4
	2	1	3			4	7	5		2	24

SUMMARY OF DATA AND INFORMATION REQUESTS

JUNE 1985

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High		1									1
- Low											
Means - Annual											
- Monthly											
- Daily							2				2
Hourly		1									1
Plots of Q											
Historical Summary				1			4			1	6
HWD Publication										1	1
Reference Index											
Water Level											
Extremes - High			1								1
- Low											
Means - Annual											
- Monthly											
- Daily											
Hourly											
Plots of W.L			1								1
HWL Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables											
Microfiche											
water Temp											
Maps											
Reports/Tech. Papers					1					1	2
Computer Programs											
Other (specify)				1							1
	2	2	2	1			6			3	16

SUMMARY OF DATA AND INFORMATION REQUESTS

JULY 1985

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High				1			1				2
- Low											
Means - Annual											
- Monthly											
- Daily		1				1	6				8
Hourly			1	1							2
Plots of Q			1	1							2
Historical Summary		1		1			2				(1) 5
HWD Publication							1				(1) 2
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily						1					1
Hourly											
Plots of W.L.											
HWL Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness							1				1
Cross Sections							1				1
Velocity							1				1
Rating Tables											
Microfiche											
Water Temp.		1									1
Maps											
Reports/Tech. Papers											
Computer Programs											
Other (specify)							1				1
		3	2	4		2	14				(2) 27

SUMMARY OF DATA AND INFORMATION REQUESTS

AUGUST 1985

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low											
Means - Annual							1				1
- Monthly							1				1
- Daily	2	1					5	1			9
Hourly							1				1
Plots of Q							1				1
Historical Summary		3						1			4
SWD Publication		1									1
Reference Index		1									1
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily				1							1
Hourly											
Plots of W.L.											
WWL Summary		1									1
Sediment Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers		1									1
Particle Size											
Reference Index		1									1
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.							1				1
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables							1				1
Microfiche	2										2
Water Temp											
Maps											
Reports/Tech. Papers											
Computer Programs											
Other (specify)	1	1								1	3
	3	12		1			11	2		1	30

SUMMARY OF DATA AND INFORMATION REQUESTS

SEPTEMBER 1985

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High							1				1
- Low											
Means - Annual							1				1
- Monthly											
- Daily	2						2				4
Hourly	1						1				2
Plots of Q						1					
Historical Summary	1		1				1				3
SWD Publication			1								1
Reference Index			1				1				2
Water Level											
Extremes - High	2										2
- Low											
Means - Annual											
- Monthly											
- Daily				1							1
Hourly	2										2
Plots of W.L.											
HWL Summary									1		1
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers			1								1
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness						1					1
Cross Sections							1				1
Velocity							1				1
Rating Tables											
Microfiche											
Water Temp.						1	1				2
Maps											
Reports/Tech. Papers							1				1
Computer Programs							1				1
Other (specify)							1			2	3
	8		4	1		3	13		1	2	32

SUMMARY OF DATA AND INFORMATION REQUESTS

OCTOBER 1985

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low											
Means - Annual											
- Monthly	1						1				2
- Daily	1	4	3			2	1		1	1	13
Hourly				1			2				3
Plots of Q											
Historical Summary		1				1	1				3
SWD Publication		1									
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily										1	1
Hourly											
Plots of W.L.											
HWL Summary			1								1
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S.D. Can. Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks						1					1
Ice Thickness											
Cross Sections											
Velocity										1	1
Rating Tables											
Microfiche											
Water Temp.											
Maps											
Reports/Tech. Papers	1					3				1	5
Computer Programs	1										1
Other (specify)	1	1				2	1			1	6
	5	7	4	1		9	6		1	5	38

SUMMARY OF DATA AND INFORMATION REQUESTS

NOVEMBER 1985

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High	1	1					3				5
- Low		1	1				2				4
Means - Annual							1				1
- Monthly		1					1				2
- Daily	1	3	2	1			5		1		13
Hourly		1				1					2
Plots of Q											
Historical Summary		1		1			1				3
SWD Publication				1							1
Reference Index											
Water Level											
Extremes - High										1	1
- Low										1	1
Means - Annual											
- Monthly											
- Daily	1		1				1		2		5
Hourly											
Plots of W.L.											
HWL Summary										1	1
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.		1									1
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables											
Microfiche											
Water Temp.											
Maps							1				1
Reports/Tech. Papers											
Computer Programs											
Other (specify)			2			1	1		1	1	6
	3	9	6	3		2	16		4	4	47

SUMMARY OF DATA AND INFORMATION REQUESTS

DECEMBER 1985

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily	3	2									5
Hourly						1					1
Plots of Q											
Historical Summary											
SWD Publication											
Reference Index											
Water Level											
Extremes - High											
- Low			1								1
Means - Annual											
- Monthly											
- Daily											
Hourly											
Plots of W.L											
MWL Summary											
Sediment Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs			1								1
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables											
Microfiche											
Water Temp.											
Maps											
Reports/Tech. Papers											
Computer Programs											
Other (specify)											
	3	2	2			1					8

SUMMARY OF DATA AND INFORMATION REQUESTS

JANUARY 1986

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High							2				2
- Low							2				2
Means - Annual							2				2
- Monthly		2				1	2				5
- Daily		4	1			2	3		1		11
Hourly											
Plots of Q											
Historical Summary		1	1	1			2			1	6
SWD Publication						1				1	2
Reference Index										1	1
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily			1	1							2
Hourly							2				2
Plots of W.L.											
HWL Summary									1		1
Sediment Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.						1					1
Gauge Designs											
Bench Marks				1							1
Ice Thickness											
Cross Sections				1							1
Velocity											
Rating Tables				1							1
Microfiche	1										1
Water Temp											
Maps							1				1
Reports/Tech. Papers										1	1
Computer Programs											
Other (specify)			1			3					4
	1	7	4	5		8	16		2	4	47

SUMMARY OF DATA AND INFORMATION REQUESTS

FEBRUARY 1986

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High	1						2		1		4
- Low	1						1		1		3
Means - Annual			1						1		2
- Monthly	1						1		1		3
- Daily	1	2				1					4
Hourly							1				1
Plots of Q											
Historical Summary	1	1		1	1		4				8
SWD Publication		1		1			1				3
Reference Index							1				1
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily		1		1							2
Hourly											
Plots of W.L.											
HWL Summary		1									1
Sediment											
Concentration	1										1
Daily Load	1	1									2
Bed Load											
Bed Material											
S D Can. Rivers	1										1
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables											
Microfiche							1				1
Water Temp.											
Maps		1		1							2
Reports/Tech. Papers	1	1					1				3
Computer Programs							1				1
Other (specify)						1			1	1	3
	9	9	1	4	1	2	14		5	1	46

SUMMARY OF DATA AND INFORMATION REQUESTS

MARCH 1986

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High							1				1
- Low											
Means - Annual											
- Monthly									1		1
- Daily	3	1					1				4
Hourly											
Plots of Q											
Historical Summary							1				1
IWD Publication							1				1
Reference Index							1				1
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily				1							1
Hourly							1				1
Plots of W.L.											
HWL Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers							1				1
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info							1				1
Gauge Designs		1									1
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables											
Microfiche											
Water Temp											
Maps											
Reports/Tech. Papers							1				1
Computer Programs											
Other (specify)	1						3				3
	3	2	1				11		1		18

SUMMARY OF DATA AND INFORMATION REQUESTS

APRIL 1986

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High						1					1
- Low						1	1				2
Means - Annual						1	1				2
- Monthly							111		1		4
- Daily	1						1111				5
Hourly											
Plots of Q											
Historical Summary		1			1		1				3
SWD Publication		1							1		2
Reference Index									1		1
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily				1							1
Hourly											
Plots of W.L.											
WSC Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can. Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs						1					1
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables											
Microfiche											
Water Temp.											
Maps											
Reports/Tech. Papers											
Computer Programs											
Other (specify)	1			1		11					4
	2	2		2	1	6	10		3		(21.)

SUMMARY OF DATA AND INFORMATION REQUESTS

MAY 1986

Request Date(s)/ref ___ - ___

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High							IIII				4
- Low							I				1
Means - Annual							III				3
- Monthly							II				2
- Daily			II	I			IIII				7
Hourly											
Plots of Q											
Historical Summary							II				2
HYD Publication											
Reference Index	I										1
Water Level											
Extremes - High											
- Low							I				1
Means - Annual											
- Monthly											
- Daily											
Hourly											
Plots of W.L.											
WSC Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S.D. Can. Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables		I									
Microfiche											I
Water Temp.											
Maps											
Reports/Tech. Papers	I										
Computer Programs	I										I
Other (specify)	I		I	I			II		I		I
	4	1	3	2			19		1		20

SUMMARY OF DATA AND INFORMATION REQUESTS

JUNE 1986

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low											
Means - Annual		1				1					2
- Monthly		1									1
- Daily		III				1	1				5
Hourly	1										1
Plots of Q											
Historical Summary		1									
HYD Publication		1				1					2
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily							1				1
Hourly											
Plots of W.L.											
WSC Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S.D. Can. Rivers		1									
Particle Size											1
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections			1								
Velocity											1
Rating Tables											
Microfiche											
Water Temp.											
Maps											
Reports/Tech. Papers											
Computer Programs											
Other (specify)		1	1							1	3
	1	9	2			2	2			1	(10)

SUMMARY OF DATA AND INFORMATION REQUESTS

JULY 1986

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily			1								1
Hourly	11						11				4
Plots of Q	1		1								2
Historical Summary											
			1			1			1		3
HYD Publication						1					1
Reference Index						1					1
Water Level											
Extremes - High			1						1		2
- Low			1						1		2
Means - Annual									1		1
- Monthly									1		1
- Daily									1		1
Hourly	1										1
Plots of W.L.											
WSC Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
T.D. Can. Rivers											
Particle Size											
Reference Index											
Snow											
Snow Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables		1							1		2
Miscellaneous											
Water Temp.											
Maps											
Reports/Tech. Papers											
Computer Programs						1					1
Other (specify)		1	1			1			1		4
	4	2	6			5	2		8		(27)

SUMMARY OF DATA AND INFORMATION REQUESTS

AUGUST 1986

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low											
Means - Annual											
- Monthly			I								
- Daily	I		III						I		5
Hourly			II			I					3
Plots of Q											
Historical Summary			I								I
SWD Publication									I		I
Reference Index											
Water Level											
Extremes - High										I	I
- Low											
Means - Annual											
- Monthly		I									I
- Daily											
Hourly		I									I
Plots of W.L.											
HWL Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can. Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary	I										I
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables			II								2
Microfiche											
Water Temp											
Maps											
Reports/Tech. Papers				I							I
Computer Programs											
Other (specify)		I		I							2
	2	3	9	2		1			2	1	Fan

SUMMARY OF DATA AND INFORMATION REQUESTS

SEPTEMBER 1986

Type of Data Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High						11					2
- Low						1	1				2
Means - Annual											
- Monthly											
- Daily							11		11		4
Hourly							1				1
Plots of Q			1								1
Historical Summary	1								1		2
SWD Publication											
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily											
Hourly											
Plots of W.L.											
WL Summary	1										1
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can. Rivers											
Particle Size											
Reference Index											
Snow											
Snow Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables			1								1
Microfiche											
Water Temp.				1							1
Maps	11										2
Reports/Tech. Papers											
Computer Programs											
Other (specify)			1					1			2
	14	3	1			3	4	1	3		6 in

SUMMARY OF DATA AND INFORMATION REQUESTS

OCTOBER 1986

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low											
Means - Annual			11								2
- Monthly			11						1		3
- Daily	1		11			1	11		1		7
Hourly											
Plots of Q	1										1
Historical Summary			1				1			1	3
HYD Publication											
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly									1		1
- Daily		1					1		1		3
Hourly											
Plots of W.L.											
WL Summary										1	1
Sediment											
Concentration			1								1
Daily Load			1								1
Bed Load											
Bed Material											
S D Con. Rivers											
Particle Size											
Reference Index			1								1
Snow											
Snow Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections							1				1
Velocity											
Rating Tables							1				1
Microfiche											
Water Temp.											
Maps	1										1
Reports/Tech. Papers											
Computer Programs											
Other (specify)							1				1
	3	1	10			1	7		4	2	40

SUMMARY OF DATA AND INFORMATION REQUESTS

NOVEMBER 1986

Type of Data/ Information Requested	Government Agencies							Private			Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High									1		1
- Low									1		1
Means - Annual				1					1		2
- Monthly	1								1		2
- Daily		11	4		1	1					5
Hourly			1	1							2
Plots of Q	1		1		1						3
Historical Summary				1							1
SWD Publication		1									1
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily			1								1
Hourly											
Plots of W.L.											
WSC Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S.D. Can. Rivers											
Particle Size											
Reference Index											
Snow											
Snow Depth											
Water Content											
Annual Summary											
General											
Network Info.				1							1
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Sedicity											
Rating Tables											
Microfiche											
Water Temp.											
Maps				1							1
Reports/Tech. Papers							1				1
Computer Programs											
Other (specify)											
	2	3	4	5	2	1	1		4		21

SUMMARY OF DATA AND INFORMATION REQUESTS

DECEMBER 1986

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High							1				1
- Low											
Means - Annual											
- Monthly		1			1						2
- Daily		11	1			11	1111	1			11
Hourly						1					1
Plots of Q											
Historical Summary		1					1			1	3
SWD Publication		1									1
Reference Index											
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily							1				1
Hourly											
Plots of W.L.											
WSC Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
2 D Cam Rivers											
Particle Size											
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info											
Gauge Designs											
Bench Marks											
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables	1										1
Microfiche											
Water Temp.		1									1
Maps											
Reports/Tech. Papers											
Computer Programs											
Other (specify)	1						1				2
	2	6	1		1	3	9	1		1	21

SUMMARY OF DATA AND INFORMATION REQUESTS

JANUARY 1987

Type of Data/ Information Requested	Government Agencies					Non- Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High											
- Low			1								1
Means - Annual							1			1	2
- Monthly										1	1
- Daily	1			1			1				3
Hourly			1								1
Plots of Q											
Historical Summary											
SWD Publication											
Reference Index		1									1
Water Level											
Extremes - High											
- Low											
Means - Annual											
- Monthly											
- Daily									11		~~2~~
Hourly											
Plots of W.L											
HWL Summary											
Sediment Concentration		1									1
Daily Load											
Bed Load											
Bed Material											
S.D. Can. Rivers											
Particle Size		1									1
Reference Index											
Snow											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.							1				1
Gauge Designs											
Bench Marks						1					1
Ice Thickness											
Cross Sections											
Velocity											
Rating Tables			1	1		4					4
Microfiche											1
Water Temp		1									1
Maps	1										1
Reports/Tech. Papers							1				1
Computer Programs											
Other (specify)							1				1
	2	4	3	2		4	5		2	2	~~11~~

SUMMARY OF DATA AND INFORMATION REQUESTS

FEBRUARY 1987

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High				1	1	1	III				5
- Low											
Means - Annual							1				1
- Monthly	1						1				2
- Daily	II		1	1			IIII		1		9
Hourly						1					1
Plots of Q							1				1
Historical Summary			1		1		IIII				7
IWD Publication							II				2
Reference Index				1					1		2
Water Level											
Extremes - High			1			1	1				3
- Low											
Means - Annual											
- Monthly											
- Daily			1				1				2
Hourly											
Plots of W.L.			1								1
WRB Summary											
Sediment											
Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can Rivers											
Particle Size											
Reference Index											
Ice											
Mean Depth											
Water Content											
Annual Summary											
General											
Network Info.											
Gauge Designs											
Bench Marks			1								1
Ice Thickness							1				1
Cross Sections						1					1
Velocity											
Rating Tables											
Microfiche											
Water Temp											
Maps		1									1
Reports/Tech. Papers											
Computer Programs											
Other (specify)									1		1
	3	1	6	3	2	4	19		3		11

SUMMARY OF DATA AND INFORMATION REQUESTS

MARCH 1987

Request Satisfied? ___ Yes ___ --

Type of Data/ Information Requested	Government Agencies					Non-Government Agencies					Remarks
	Federal		Provincial		Municipal	Educational Institution	Engineering Consultant	Public Interest Group	Company	Private Individual	
	DOE	Other	DOE	Other							
Streamflow											
Extremes - High							////		/		5
- Low							/				/
Means - Annual					/		/				2
- Monthly							/				/
- Daily		/	/	/		/	/////		/		10
Hourly	/						///				4
Plots of Q											
Historical Summary					/				/		2
SWD Publication						/	/				2
Reference Index						/					/
Water Level											
Extremes - High							///				3
- Low							/				/
Means - Annual											
- Monthly											
- Daily							//				2
Hourly							///				3
Plots of W.L.											
WSC Summary										/	/
Sediment Concentration											
Daily Load											
Bed Load											
Bed Material											
S D Can. Rivers											
Particle Size											
Reference Index				/							/
Ice											
Mean Depth							/				/
Water Content							/				/
Annual Summary							/				/
General											
Network Info.						/					/
Gauge Designs											
Bench Marks											
Ice Thickness							/				/
Cross Sections							/				/
Velocity											
Rating Tables							/				/
Microfiche											
Water Temp.		/									/
Maps (reports/Tech. Papers		/					/				2
Computer Programs											
Other (specify)							//				2
	1	3	1	2	2	4	34		3	1	12.